20031023.ba v03_n559.bam.20031023

>From ???@??? Thu Oct 23 18:37:28 2003 -0600
Message-Id: <200310232337.h9NNbGlH003215@sco.theporch.com>
Date: Thu, 23 Oct 2003 18:36:53 CDT
From: Old Tube Radios <boatanchors@theporch.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: BOATANCHORS digest 3559

BOATANCHORS Digest 3559

Topics covered in this issue include:

1) Re: HP voltmeter meter face salvage - followup (longish)
   by "Al Parker" <anchor@ec.rr.com>
2) Re: Line Voltage
   by luc dugas <collins2@globetrotter.net>
3) Re: NC-183D power transformer, Heinz, power in EC,UPS & etc.
   by "Herbert M. Rosenthal" <herbrose@comcast.net>
4) RE: Transformer cooling
   by Morris Odell <morriso@vifm.org>
5) RE: NC-183D power transformer, Heinz, power in EC,UPS & etc.
   by "Bill Hawkins" <bill@iaxs.net>
6) RE: Line Voltage WAS: NC-183D power transformer)
   by Bob Roehrig <broehrig@aurora.edu>
7) Re: Transformer cooling
   by "Don Davis" <dxguy@earthlink.net>
8) Socket for 304TL/H
   by "Robert G. Flory" <RobandPJ@compuserve.com>
9) Re: Socket for 304TL/H
   by "Charles W3KC" <w3kc@starpower.net>
10) RE: NC-183D power transformer, Heinz, power in EC,UPS & etc.
   by "A. B. Bonds" <ab@vuse.vanderbilt.edu>
11) 5687 tube
   by wb3fau@att.net
12) Re: 5687 tube
   by Al Klase <skywaves@bw.webex.net>
13) Re: 5687 tube
   by John Shriver <jshriver@sockeye.com>
14) Re: Questions About National HRO-50T
   by "JAMES T HANLON" <knjhanlon@msn.com>

Message-ID: <052901c398d9$78e0a7e0$5901a8c0@w8ut>
From: "Al Parker" <anchor@ec.rr.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: HP voltmeter meter face salvage - followup (longish)
Date: Wed, 22 Oct 2003 16:17:09 -0400

MIME-Version: 1.0
Content-Type: text/plain;
     charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Thanks to those who answered my query, offered advice, offered condolences, etc. Several asked that I post the cure that was successful, so here's a summary of opinions & what I did:

1. several suggested trying "solva-set," a solution used by hobbyist modelmakers to blend decals into a surface, and I guess to better attach them. No one had tried it on an HP meter face. I was unable to obtain any, the small hobby store here disappeared a few mo.s ago, there's no other within 30-40 miles, or more. So, no conclusion.
2. Scanning was suggested for 2 reasons, replacing the face with a scanned, possibly touched up, stick-on paper scale, or just for preservation for the future when the present scale was totally unusable. My scale was curled up in several areas, particularly along the mirror, it protruded enough to catch the needle. The curls were very brittle, I couldn't put the scale face down on the scanner without breaking off all the curls, and with possible further destruction of the graduations and numbers.   But I did do that after my fix.
3. At least one said he hadn't seen the problem on HP meters
4. At least 2 said they had seen it and needed to repair theirs.
5. One said the scales were originally hand done, as the meters were individually calibrated, and the curls were from a clear coating put over the markings. He had peeled the coating off using stickytape, and used the scale as is. My curls were definitely not clear, they were white. A sticker for sealing the meter did indicate that it had been individually calibrated.
5. One had sprayed clear acrylic on one from another mfgr with good results.
6. One tried gluing the curls down with a cement, but "made a mess," possibly like I did with my first one where the clear nail polish crazed the paint.
7. One suggested steaming the surface and laying it down on a flat surface to dry. I had noted that the curls may be water soluble.

What did I do?? I considered using an airbrush to lightly mist the surface with water to see if it would then be able to be to flattened & maybe it'd even stick down, temporarily. But before I got that stuff out of the box I tried a drop of alcohol on one curl. Now the right alcohol is a great cure for many problems. In this case "Everclear," 190 proof grain alcohol. Several yrs ago I wrote about using it to free stuck slugs in IF cans, etc. It didn't do the job there, but I was happier when I was done - just a slug of Everclear in the orange juice will help any job. Safety note - don't try straight Everclear in your glass.

But, what happened? Maybe I just got lucky. The alcohol did soften the curls, and I could flatten them some, but not enough to stick them down, even temporarily. In this case, the curling only extended to the scale marking or numbering in one or 2 places, just slightly. So, I used a sharp knife & sliced the curls off, while softened, so the wouldn't pull any more. Then a very light spray of clear enamel. Let it dry 4-5 minutes, sprayed again, , & one more time, 3 lite coats total. Remember lacquer had crazed the paint before, so I used enamel this time. It may have soften the scale paint slightly, but it settled down OK. One early lesson from my woodworker father, "you can put enamel over lacquer, but don't try lacquer over enamel."

It has a slightly orangepeeled surface now, and the mirror sure isn't shiny, but it's back in the case, I did some touchup on the balance pots, etc, and I've resurrected a nice piece of test eqpt.

Now, what did Marty say - "What was I saying about watchmaking?"
thanks again for the help from this great list.
73,
Al, W8UT
New Bern, NC
BoatAnchors appreciated here
http://www.thecompendium.net/radio/
http://www.hammarlund.info

----- Original Message -----
From: "Al Parker" <anchor@ec.rr.com>
To: "Old Tube Radios" <boatanchors@theporch.com>
Sent: Thursday, October 16, 2003 4:40 PM
Subject: HP voltmeter meter face salvage

> Hi all,
>   I have 2 HP voltmeters, an HP-400EL, and a just obtained 427A. The
> meter scale on each has peeled. It curls up, worst along the mirror,
> above and below, and hangs the needle up.
>   I tried, a few yrs ago, to salvage the one on the 400EL by using
clear
> fingernail lacquer I think. Wrong thing, it dissolved/crazed the
original
> paint, but at least it didn't stay curled up & hit the needle.
>   I've just opened up the 427A, it's curled and hanging up the needle.
> I gingerly put a drop of water on one of the tears, it seemed to soften
> the paint, it may have flattened down a bit in the tiny spot tried.
>   I'm tempted to try a dilute solution of white Elmer's glue or some
> such, has anyone had any success in this endeavor? I think it's a
common
> problem on these neat old pieces, there's gotta be a way??
> thanks for any help,
> 73,

> Al, W8UT
> New Bern, NC
> BoatAnchors appreciated here
> http://www.thecompendium.net/radio/
> http://www.hammarlund.info
>
>

Date: Wed, 22 Oct 2003 17:11:30 -0400
From: luc dugas <collins2@globetrotter.net>
Subject: Re: Line Voltage
To: Old Tube Radios <boatanchors@theporch.com>
Message-id: <006a01c398e1$104a8a90$22ad86cf@compaq>
MIME-version: 1.0
Content-type: text/plain; charset=iso-8859-1
Content-transfer-encoding: 7BIT

----- Original Message -----
From: <WA5CAB@cs.com>
To: "Old Tube Radios" <boatanchors@theporch.com>
Sent: Wednesday, October 22, 2003 2:20 PM
Subject: Re: Line Voltage

> Another thought that occurred to me is that removing the endbells (if practical) would also help, although I have no idea what the magnitude of the improvement would be -

Group, maybe it is not a good idea to remove the endbells because it serve the purpose of confining the magnetic lines of force close to the core. if one removes the endbells the power transfo may leaks energy to the chassis creating heat when the lines of force intersect the chassis.

luc ve2lgj 73s

Message-ID: <3F96F4A9.6E7D23EB@comcast.net>
Date: Wed, 22 Oct 2003 15:20:46 -0600
From: "Herbert M. Rosenthal" <herbrose@comcast.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: NC-183D power transformer, Heinz, power in EC,UPS & etc.
Content-Type: text/plain; charset=us-ascii

Content-Transfer-Encoding: 7bit

Hello, Heinz and the BA gang,

The problem of obtaining correct power, frequency considered, may be achieved if one throws enough $$ or EUs at it.

Years ago I was certified as a 'factory trained' tech by EXIDE for their 100kva true UPS systems. They used 24 x 2 volt glass cells, (51 v) about shoulder high, copper bus bar the size of your wrist, and the inverters ran 24/7 in the utility I worked for in Alaska. These monsters would run critical loads for a day or so on battery power. The other half of the system used 60 Hz primary power to keep the batteries charged. This way, an interruption of the primary was not seen by the load, as there was no switch-over time (as in the small computer "UPS" supplies commonly sold.)

These modern, small computer UPSs rely on the computer filter caps to keep the computer running for about 500 ms which is longer than the "UPS" switch time of around 100 ms. Ergo, these are not true UPS, but offer a cheap and effective way to solve a problem. I have one on my MAC and it beeps once in a while when there is a bump on the line. Maybe save an OS or the content of a drive. I disconnect it from the MAC to run a load on it once in a while (I use a lamp or two until the UPS cuts off... down around 105 v), then recharge for 24 hours, to maintain good battery life.

Back to Alaska: as the load grew, the company installed a very large,
motor-start diesel operated alternator (motor ran from the UPS)... the motor got the
diesel firing and up to speed at full output in a handful of revolutions...
amazing to watch this during tests.

Now, down to Heinz's load requirement... EXIDE and others (APCC) do make (or made) smaller true UPS, and it might be possible to chase down a 5kva unit and see if it is affordable; perhaps even find one used on ebay, etc. I think they would operate from Sealed Lead Acid batteries and not require the venting of the open glass cells, and the UPS does not hum too loudly (in the garage?)

Oh, yes, during the cold war and the operation of the DEW line in Alaska, power supplies consisted of electric motors turning huge brass flywheels that had clutches connecting them to diesel alternators. These ran 24/7/365 for years. A signal to the clutch, and the diesel started with (almost) no delay. I visited a site in the 1970s and the site operator (then RCA) told me that one day a flywheel broke loose, went through the wall, and 'chased' the operator for quite a distance. Soon after, they were taken out of service. True or not? I really don't know, but it makes a scene easily visualized.

Herb Rosenthal W5AN
PS All this from a National receiver transformer...

BTW, one of those inexpensive 4-500va UPS units will run a string of 7 watt "night lights" for a very long time... and those bulbs give off a lot of light when the power line is down. Grab those orange extension cords you have and string them through the house with these lamps during an outage and there will be light!

Heinz wrote:

<snip> <snip>
because for 50 Hz I need more windings
> per volt too.
> Is there an easy way to get over this? In Germany we have 230V/50Hz and
> a couple of boatanchors in my collection are specified 60Hz only. Well I
> could pour a few cubic yards of concrete behind the house and install a
> ship's diesel and a generator but I am afraid the XYL will not tolerate
> that unless it is whispering quiet. A computer type UPS (uninterrupted
> power supply) might serve my receivers one at a time but will not power
> up the Collins KW-1 at 3kVA.
>
> 73
> Heinz DH2FA, KM5VT

Date: Thu, 23 Oct 2003 08:58:49 +1000
From: Morris Odell <morriso@vifm.org>
Subject: RE: Transformer cooling
To: Old Tube Radios <boatanchors@theporch.com>
Message-id:
 <07A064EA6042D4118A62009027F70E77339F12@nt_exchange.vifp.monash.edu.au>
MIME-version: 1.0
Content-type: text/plain; charset=us-ascii
Content-transfer-encoding: 7BIT

>...I'm not sure that introducing an air gap between the bottom of a
>transformer and the chassis will help... With the transformer more or
>less solidly bolted to and touching the chassis, heat transfer will
>occur between the bottom of the transformer and the
chassis

I seem to remember that spacing the transformer off the chassis is something the audio guys do to reduce eddy currents and therefore hum.

> maybe it is not a good idea to remove the endbells because it serve
the purpose of confining the
> magnetic lines of force close to the core. if one removes the endbells
the power transfo may leaks
> energy to the chassis creating heat when the lines of force intersect

the chassis.

I doubt that the endbells have much to do with this. It's the core that has the primary function of confining the magnetic flux to the windings. The endbells may shield a little stray flux which has significance for hum induction, but their primary function is probably cosmetic and/or protective of the windings. Any transformer that leaked enough flux to heat up adjacent metal structures whould also heat up any endbells and would be quite inefficient.

Morris

From: "Bill Hawkins" <bill@iaxs.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: RE: NC-183D power transformer, Heinz, power in EC,UPS & etc.
Date: Wed, 22 Oct 2003 18:37:59 -0500
Message-ID: <002c01c398f5$86c25cc0$290aa8c0@darius>
MIME-Version: 1.0
Content-Type: text/plain;
     charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Thanks for the Alaskan story, Herb.

We've had some extended outages here in suburban Minneapolis, so I bought 4 APC 1100 VA units to keep things running. When they start there is a loud buzz that dies out as the oscillator matches phase and frequency with the line. Perhaps it switches faster than 100 ms so it needs to be in sync with the line.

One time I tried to start a unit that had not been plugged in. Nothing happened until I plugged it into an operating UPS. This would indicate that a computer UPS cannot be used to change the line frequency. Not a stock one, anyway. You might be able to hack it so that the oscillator sync'd to 60 Hz from an audio oscillator and amplifier.

Another way to look at the transformer problem is to expect a particular transformer to have a constant ratio of volts per cycle. If the primary is rated for 115 VAC at 60 Hz then it will handle 95 VAC at 50 Hz without saturating any more than it does at 60 Hz. The tubes will not have as much emission, but you don't need a dropping resistor in series with silicon diodes to simulate the tube rectifier's plate resistance.

Note that volts per cycle heating is independent of load heating. You can fry a transformer with no load on it. Also, volts per cycle heating is not proportional because it is a saturation problem. If you try to run at 105 VAC 50 Hz the transformer will get very hot, but 95 VAC is OK.

Another way to get 60 Hz is to go to the auction place and look for a frequency synthesizer. The HP 3320 is just right and goes for about $200. Then you need an audio amplifier that has a 70 volt or higher "line output" (or use the transformer from a computer UPS). They run about $150 for 200 watts. The Altec 1590E is ideal, with a 140 volt line (turn down the volume) and can run from 24 VDC.

Come to think of it, you could drive the transformer with a pulse waveform (not square, volts too low). The filter capacitors hold the peak and the tubes easily integrate the pulses into cathode heat. The on/off time and peak volts would make an interesting problem. Again, UPS hardware could probably be hacked to do it.

Is there a market here?

Regards,
Bill Hawkins

Date: Wed, 22 Oct 2003 19:14:56 -0500 (CDT)
From: Bob Roehrig <broehrig@aurora.edu>
To: Old Tube Radios <boatanchors@theporch.com>
cc: Old Tube Radios <boatanchors@theporch.com>
Subject: RE: Line Voltage WAS: NC-183D power transformer)
Message-ID: <Pine.OSF.4.58.0310221912020.191561@mail.aurora.edu>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

On Wed, 22 Oct 2003, Merz Donald S wrote:

> But is 105 volts too low? What is the "correct" voltage for protecting the equipment while still getting good performance?

I would check the filament voltage. Keep it as close to 6.3 (or whatever it's supposed to be) as you can. That should put the B+ in the proper range.

Bob Roehrig
Aurora University Telecom/IS dept.
broehrig@aurora.edu   73 de K9EUI
630-844-4898   fax 630-844-4222

Message-ID: <037c01c3991f$97462b60$208eb2d1@hppav>
From: "Don Davis" <dxguy@earthlink.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Transformer cooling
Date: Wed, 22 Oct 2003 21:39:04 -0700
MIME-Version: 1.0
Content-Type: text/plain;
    charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Yes, you'll get heat transfer to the chassis, but, at some point the chassis will get saturated and overheating will still occur. Just takes longer. The thermal interface to the chassis is pretty poor, btw. For this type of interface, we (in aerospace) assume factors around 10 - 20% contact area. For the best bolted together interface, you'll only get about 50% contact area (for machined rigid surfaces). And, the heat path is relatively small in area with respect to the size / mass of the heat source. No substitute for air flow, even a little. Fins might help, but again, you need air flow for them to work.

My experience: raising the xfmr about 1/4" or so helps cool the xfmr quite a bit. Other things that help: don't stack stuff directly on top or under the radio to block the air holes. Putting tall rubber feet on the radio can help.

73,

Don AD6PB

> >...I'm not sure that introducing an air gap between the bottom of a
> >transformer and the chassis will help...
> >With the transformer more or less solidly bolted to and touching the
chassis,
> >heat transfer will occur between the bottom of the transformer and the
> chassis
>
> Excellent point, Robert, I'd overlooked that entirely.
> I read some time ago that raising the xfmr would improve circulation,
> including through the wire hole beneath, but I forgot about the conduction
> afforded by the chassis. I'll stick with the added fins.
> Is it too late to retract my comments?
>
> VE7XF
>
>

Date: Thu, 23 Oct 2003 07:26:16 -0400
From: "Robert G. Flory" <RobandPJ@compuserve.com>
Subject: Socket for 304TL/H
To: Old Tube Radios <boatanchors@theporch.com>
Message-ID: <200310230726_MC3-1-54EB-3B65@compuserve.com>
MIME-Version: 1.0
Content-Transfer-Encoding: quoted-printable
Content-Type: text/plain;
      charset=ISO-8859-1
Content-Disposition: inline

Hi,
Does a Johnson 244 fit those tubes? If not, what socket does?
73 and Thanks,
Rob Flory

Message-ID: <001401c39968$735f9bc0$97042c42@w3kc>
From: "Charles W3KC" <w3kc@starpower.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Socket for 304TL/H
Date: Thu, 23 Oct 2003 09:19:40 -0400

Johnson 213.
73 Chas

----- Original Message -----
From: "Robert G. Flory" <RobandPJ@compuserve.com>
To: "Old Tube Radios" <boatanchors@theporch.com>
Sent: Thursday, October 23, 2003 7:26 AM
Subject: Socket for 304TL/H

Hi,
Does a Johnson 244 fit those tubes? If not, what socket does?
73 and Thanks,
Rob Flory

Message-Id: <5.1.0.14.0.20031023090747.00a69888@vuse.vanderbilt.edu>
Date: Thu, 23 Oct 2003 09:15:09 -0500
To: Old Tube Radios <boatanchors@theporch.com>
From: "A. B. Bonds" <ab@vuse.vanderbilt.edu>
Subject: RE: NC-183D power transformer, Heinz, power in EC,UPS & etc.
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"; format=flowed

At 06:37 PM 10/22/2003 -0500, you wrote:
>Thanks for the Alaskan story, Herb.
>
>We've had some extended outages here in suburban Minneapolis,
>so I bought 4 APC 1100 VA units to keep things running. When
>they start there is a loud buzz that dies out as the oscillator
>matches phase and frequency with the line. Perhaps it switches
>faster than 100 ms so it needs to be in sync with the line.
>
>One time I tried to start a unit that had not been plugged in.
>Nothing happened until I plugged it into an operating UPS. This
>would indicate that a computer UPS cannot be used to change the
>line frequency. Not a stock one, anyway. You might be able to
>hack it so that the oscillator sync'd to 60 Hz from an audio
>oscillator and amplifier.

That is quite correct. I have done considerable circuit analysis of UPS strategies as part of an expert witness obligation. (A UPS apparently caught fire and burned down an auto parts store with considerable loss.) Most units pass the power through with some conditioning (keep the amplitude constant and eat the glitches), however they also have a circuit that runs continuously to monitor the line frequency and phase. This insures a glitch-free startup upon switchover. In general the strategy is to start the inverter when the input voltage gets below a threshold (usually around 95 volts). What was of interest in my case is that there is no primary circuit protection (current OR thermal) aside from a fusible link of very high rating, hence any malfunctions in the MOSFET switches can easily lead to catastrophic failures.

I do not know whether a 50 Hz unit can be fooled to run at 60 Hz, since there may be some software to limit the excursion of the switching frequency.

A. B. Bonds

From: wb3fau@att.net
To: Old Tube Radios <boatanchors@theporch.com>
Subject: 5687 tube
Date: Thu, 23 Oct 2003 15:00:52 +0000
Message-Id: <102320031500.9202.6bc9@att.net>

To the group: The tube 5687 has similar charactaristics as the 12AX7 family. Checking it out I see a different pin out. What were these used in and why bother with a different configuration? Russ- wb3fau

---

Message-ID: <3F97FB82.1030707@bw.webex.net>

Date: Thu, 23 Oct 2003 12:02:10 -0400
From: Al Klase <skywaves@bw.webex.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
CC: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: 5687 tube
Content-Type: text/plain; charset=us-ascii; format=flowed
Content-Transfer-Encoding: 7bit

wb3fau@att.net wrote:

> To the group: The tube 5687 has similar charactaristics as the 12AX7
> family. Checking it out I see a different pin out. What were these used in
> and why bother with a different configuration? Russ- wb3fau

It's really not even close. Per Ludwell Sibleys "Tube Lore":

"5687, 6900, 7044, 7370 - Min, 9-pin duo-triodes, medium-mu
power type for computer use, for cathode followers, heaters
12.6 VCT at 450 mA (except 7320). 250 V, 8.4 Watts, unusual
pinout."

12AX7 is a high-mu tube and the heater only draws 150 mA.

I highly recommend this book as it enables one to figure out
stuff like this. It really is lore rather than data.

Regards,
Al

--
Al Klase - N3FRQ
skywaves@bw.webex.net
Flemington, NJ 08822
Web Page: http://www.webex.net/~skywaves/home.htm

Message-ID: <3F981729.8060805@sockeye.com>
Date: Thu, 23 Oct 2003 14:00:09 -0400
From: John Shriver <jshriver@sockeye.com>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
CC: wb3fau@att.net
Subject: Re: 5687 tube
Content-Type: text/plain; charset=us-ascii; format=flowed
Content-Transfer-Encoding: 7bit

wb3fau@att.net wrote:

> To the group: The tube 5687 has similar charactaristics as the 12AX7 family. Checking it out I see a different pin out. What were these used in and why bother with a different configuration? Russ- wb3fau

From Tung-Sol's period 5687 marketing, I think they were trying to meet all the capabilities of the 6SN7 in a noval miniature tube. While the amplification characteristics aren't identical, it has the same beefy plate dissipation ratings as the 6SN7. But the cost (tradeoff) was a high-perveance design with 50% higher filament power.

RCA's competitive approach was the 6FQ7/6CG7, which has exactly the same amplification characteristics as the 6SN7, but reduced power handling, and the same filament power.

The 6FQ7/6CG7 was far more succesful in the marketplace than the 5687. Probably most 6SN7 applications weren't using the full plate dissipation. Plus, as the recent discussion of power transformers notes, that filament power has a big influence on product cost via power transformer cost.

I think that the 5687 was far more successful in military design-in's than in consumer design-in's. Perhaps the military was willing to pay the filament power for miniaturization reasons?

Perhaps the 5687 was widely used in some of the vacuum-tube computers. The earliest ones used loads of 6SN7 and 6SL7 tubes. But I don't think that the 5687 was initially viewed as a computer tube. The 7044 and 7199 are enhanced versions for computer use (cathode interface protected). Well, let's search the web. The IBM 702 had 10,000 tubes, using 10 different types, the most common were 6211, 5965 and 5687. There's a 1961 BRL report on computers on the web, and many of them used 5687's.

Why the strange pinout? Well, it was a Tung-Sol design, why use RCA's favorite dual-triode pinout! They weren't playing nice back then...

From: "JAMES T HANLON" <knjhanlon@msn.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Questions About National HRO-50T
Date: Thu, 23 Oct 2003 11:57:08 -0600
MIME-Version: 1.0
Content-Type: multipart/alternative;
    boundary="----=_NextPart_000_0060_01C3995C.C8C572D0"
Message-ID: <BAY4-DAV1239mK6PYzD00001004@hotmail.com>

This is a multi-part message in MIME format.

```
------=_NextPart_000_0060_01C3995C.C8C572D0
Content-Type: text/plain;
	charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

Liles,

I am the owner of an HRO-50T that my dad purchased for my brother and =
myself in Cincinnati in 1950.  As I recall, National did offer a six =
meter coil as an accessory for the '50 sometime after they brought out =
the receiver itself.  If the coil in question has engraved markings =
directly in the front of the coil drawer filled in with white paint, as =
opposed to a rivited-on marking plate, it will be an HRO-50 coil.  You =
can also distinguish coils for the 60 from those for the 50 and 50T1 by =
the presence of a large hole in the back of one of the four individual =
coil covers.  The standard HRO-50 coil covers (and those for all earlier =
HRO's) all have two holes for making adjustments of the internal coils =
and capacitors and a smaller hole in the center that accepts a centering =
pin from the receiver body.  In an HRO 60 coil, one of the cans (I've =
forgotten which) has one additional, large hole that allows a fiber =
switch lever to pass through it.  This is the lever that switches the =
receiver from single conversion below 7 mc to dual conversion when one =
of the C, B, A etc higher frequency coil sets is plugged in.  You can =
check any of the higher frequency coils with the receiver, in addition =
to the six meter coil, for this hole to tell whether the set is a 50 or =
a 60.  Also look inside at the IF transformers and tubes.  A 50 will =
have two IF stages using 6K7 tubes with grid caps and three, square IF =
transformers across the middle of the chassis, just in front of the =
shield separating the RF/IF portion of the receiver from the audio =
amplifier and power supply in the back.  A 50T1 and 60 will have three =
IF stages using 6SG7's with no caps on top and correspondingly more IF =
transformers.  A 50 and 50T1 will have a single 6BE6 mixer tube located =
just behind the first tuning capacitor segment that is just to the right =
of the center gear drive box as you look at the receiver from the front. =
 A 60 will have a second 6BE6 in there somewhere.  Check the markings on =
the chassis beside the tubes and they will tell you what they are. =20

In any event whether it is a 50, 50T1 or a 60, snap up this beauty!  It =
is a great receiver!

Jim Hanlon, W8KGI
  ----- Original Message -----=20
  From: Liles and Naomi Garcia=20
  To: Old Tube Radios=20
  Sent: Tuesday, October 21, 2003 2:42 AM
  Subject: Questions About National HRO-50T
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Good evening National Experts,

I have a friend that has a National HRO-50T for sale. He will have it =

at a swap meet this weekend. He also has nine coils for it. Since it =

is a " HRO-50T ", it has a table top case, and my friend has the case=20
for it along with its matching speaker. His receiver is not the =
HRO-50T-1.

I am not a National expert, but my friend has a 50 to 54 MHz coil for=20
his HRO-50T, and his receiver has a 50 to 54 MHZ scale on it. Is this =

possible with the HRO-50T?? I have been researching my ARRL =
Handbooks,=20
and the HRO-50 pages do not say anything about the HRO-50 covering 6 =
meters.

Do later production HRO-50's cover 6 meters and have the proper dial =
scale?
Does my friend by chance have an HRO-50T, but have HRO-60 coils (=20
possibly acquired from various swap meets)? But what about the 6 =
meter=20
dial scale on his HRO-50T?
My friend is a ham and he would not read the front of his receiver=20
incorrectly? Is there a chance that the metal markings got changed on =

his receiver, and he really has an HRO-60? Can someone help me out =
with=20
these questions? Many thanks in advance for your help.

Regards from Aloha, Oregon,
Liles Garcia
landn@easystreet.com

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Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

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*         ---REMAINDER OF MESSAGE TRUNCATED---            *
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*  (such as an attached file, a v-card, HTML formatting)  *
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End of BOATANCHORS Digest 3559
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